

CLAIMS

What is claimed is

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- Sub. A1
1. A wireless communication network system comprising at least three transceivers, each said transceiver having a transmitter and a receiver, one of said transceivers being structured and configured as a master device, said master device structured and configured to manage data transmission between said transceivers.

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2. The wireless communication network system as recited in claim 1, wherein said transceivers operate according to a Medium Access Control protocol having a time division multiple access frame definition, said protocol structured and configured to operate in aloha mode and time division multiple access mode.

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3. The wireless communication network system as recited in claim 1, wherein

each said transceiver further comprises a framing controller, said framing controller having means for generating and maintaining time frame information for said network system.

- 5 4. The wireless communication network system as recited in claim 1, further
Sub. R2 comprising a frame definition having a master slot, a command slot, and a
plurality of data slots, said master slot having a master sync code, said
protocol operating in slotted aloha mode and time division multiple access
mode, said master device managing said protocol and said data slots in said
10 protocol.

- 15 5. The wireless communication network system as recited in claim 1, further
comprising a Medium Access Control hardware interface comprising a
multiplexer/demultiplexer unit and a plurality of slot allocation units, said
multiplexer/demultiplexer unit operatively coupled to said plurality of slot
allocation units.

6. The wireless communication network system as recited in claim 1, wherein

said transmitters are structured and configured to emit radio frequency pulses operating with baseband wireless technology and said receivers are structured and configured to receive radio frequency pulses.

5 7. The wireless communication network system as recited in claim 1, wherein said transmitters are structured and configured to emit radio frequency pulses operating with ultra-wide band wireless technology and said receivers are structured and configured to receive radio frequency pulses.

10 8. The wireless communication network system as recited in claim 1, wherein said transceivers are structured and configured to transfer data to other said transceivers isochronously.

15 9. The wireless communication network system as recited in claim 1, wherein each said slave transceiver further comprises a local clock therein, said master transceiver further comprising a master clock therein, each said local clock synchronized with said master clock

10. A wireless communication network system comprising:

- sub. 23
- (a) at least three transceivers, one of which is structured and configured as a master device to manage data transmission between said transceivers;
- (b) a transmitter in each said transceiver; and
- 5 (c) a receiver in each said transceiver.

11. The wireless communication network system as recited in claim 10,
wherein said master device includes a time division multiple access frame
definition and a framing control function to frame data transmission
10 between said transceivers.

12. The wireless communication network system as recited in claim 10,
wherein said transceivers operate according to a time division multiple
access frame definition to synchronize said network system.

13. The wireless communication network system as recited in claim 10,
wherein each said transceiver further comprises:

- (a) a data modulator; and

(b) a data demodulator.

14. The wireless communication network system as recited in claim 10, further comprising a time division multiple access frame structure having a master slot, a command slot, and a plurality of data slots.

15. The wireless communication network system as recited in claim 10, further comprising a Medium Access Control unit comprising a Physical layer interface, a multiplexer/demultiplexer unit operatively coupled to said Physical layer interface, a plurality of slot allocation units operatively coupled to said multiplexer/demultiplexer unit, an interface to higher level protocols operatively coupled to said plurality of slot allocation units.

16. A method for providing wireless network communication comprising the steps of:

- (a) providing a master transceiver;
- (b) providing a plurality of slave transceivers in communication with said master transceiver;

- (c) synchronizing said slave transceivers with said master transceiver;
- (d) providing a Medium Access Control protocol which is executed in said master transceiver and in said slave transceivers, said protocol including a Time Division Multiple Access frame definition having a master slot, a command slot, a plurality of variable length data slots;
- (e) requesting a data slot from said master transceiver by a source slave transceiver;
- (f) assigning to said source slave transceiver an assigned data slot by said master transceiver; and
- (g) after said assigning step, transferring data in said assigned data slot, by said source slave transceiver, to a target slave transceiver, said data transferring carried out without intervention from said master transceiver.

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